Characteristics of Ohio women that did not receive reproductive and sexual healthcare

Undergraduate Honors Research Thesis

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Table of Contents

Abstract:

Objective:

The American College of Obstetricians and Gynecologists (ACOG) recommends that a person with female reproductive anatomy receive their first Obstetrics and Gynecology (OBGYN) visit at ages 13-17, and continue to have annual women's health visits throughout their lifetime.[1] Though this recommendation is well known, whether there is equitable access for all adult Ohioans with female reproductive anatomy is unknown. Previous research has determined that barriers to accessing reproductive healthcare in the United States are disproportionately experienced by marginalized individuals[2] and it is critical to determine if this relationship holds true in Ohio, a state with vastly different community spaces from urban, to suburban neighborhoods and rural farming communities. Through this analysis, I analyze the characteristics of Ohio women who experienced reduced accessibility of reproductive and sexual healthcare.

Methods:

The Ohio Survey of Women is a population-representative survey that captures data about reproductive health and demographics, including age, race and sexuality, among women in Ohio. This survey was conducted by NORC in 2018 through 2019 and sampled among women of reproductive age living in Ohio (18-44 years). Using unadjusted logistic regression, I identified characteristics of Ohio women that are associated with not receiving an annual women's health visit in the past year.

Results:

A total of 2,613 participants completed the survey. After removing respondents who were missing data on the primary variables of interest, I was left with an analytic

sample of 2,434. Race (Black OR= 1.18, CI= 0.75, 1.86; Hispanic OR= 0.91, CI= 0.49, 1,66; Multiracial/other OR=1.44, CI= 0.95, 2.16), living in rural Appalachia (OR=1.05, CI= 0.82, 1.32), and being currently pregnant (not pregnant OR= 1.52, CI= 0.77, 3.03) were not significantly correlated with not obtaining an annual women's visit. Individuals that identified as a sexual minority (OR=1.52, CI= 1.11, 2.08), were young (aged 18-24 OR=2.35, 95% CI= 1.86, 3.27), lacked health insurance at some point over the last year (OR= 4.51, CI= 3.10, 6.56), were not employed (OR=1.50, CI= 1.16, 1.94) and had low socioeconomic status (less than $75,000 a year, some college or less OR=2.26, CI=1.72, 2.99; income more than $75,000, some college or less OR=1.86, CI= 1.28, 2.70; income less than $75,000, bachelor's degree or higher OR=1.43, CI=1.03, 1.99) had significantly higher odds of not obtaining an annual women's health visit in the last year.

Conclusion:

It is critical to identify which Ohio women are most likely to miss their annual women's health visit. When advocating for a system of nondiscriminatory healthcare access, we must identify the groups experiencing the most barriers to access in order to create interventions that better serve these groups.

Background:

The Women's Health Visit

The women's health visit can serve many functions but can be broken down into three main categories: prevention and screenings, sexual health, and contraception management.[1] Prevention and screenings includes vaccinations for preventable infections (such as HPV), and pelvic and breast exams to detect cancer or other conditions. Pelvic exams also can include Pap smears, wherein the healthcare professional scrapes the cervix and removed cells are examined for abnormalities that may indicate cancer. Other pelvic exams and urine collection can also detect pelvic inflammatory disease, sexually transmitted infections, or other yeast and fungal infections. Cervical cancer can be asymptomatic[3] so pelvic exams including Pap smears are essential to early cancer detection. Sexual health includes discussions about sexual activity and safety; conversations around sexual practices and partners as well as sexual functional satisfaction. Healthcare providers can instruct their patients on how to reduce their risk of contracting HIV or other sexually transmitted infections (STIs) and can direct patients who may be experiencing emotional, physical or sexual abuse in their partnerships to other mental health supportive services. Discussions of sexual orientation and gender identity can also be affirming for patients who are questioning their identities. Menstruation and menopause concerns (such as pain, abnormal bleeding, timing of cycles, etc.) may also be addressed. Contraception services include discussions of pregnancy plans and different types of birth control. Patients can discuss what they want out of a particular contraceptive method and can work collaboratively with their

provider to both achieve their contraception goals including pregnancy prevention and reduce potential risks.

While recent guidelines have extended the time between recommended cervical cancer screenings, ACOG still recommends that an individual with female reproductive anatomy undergo a women's health visit each year. It is essential to treat individuals accessing reproductive and sexual healthcare holistically to determine the overall health and wellness of each patient.

Intersectionality

Multiple oppressed identities must be considered when describing individuals, as these intersectionalities create specific challenges to navigating institutions and especially in accessing medical care. For example, the experience of a white woman with a disability may be quite different than that of a woman of color with a disability. While both of these individuals may contain oppressed identities, they deserve careful attention to their specific characteristics in order to come to more nuanced insights of their experiences accessing reproductive and sexual healthcare.

This phenomenon can be explained through the theory of intersectionality[4] which states that each individual's unique identities (race, class, gender, sexuality, etc.) intersect to create particular experiences of oppression and privilege. Kimberlé Crenshaw coined this term to describe the struggle Black women were experiencing during civil rights movements where they were excluded from feminist spaces for being Black, and also excluded from Black spaces for being women. Being a Black woman was uniquely marginalizing in already marginalized communities. Exploring complex issues from an intersectional lens allows nuanced and complicated understandings of lived experiences

to be illuminated when multiple oppressed identities are considered simultaneously. This intersectional lens is critical when determining which group(s) of people are experiencing barriers to accessing reproductive healthcare to more fully understand the complex dynamics operating simultaneously.

American systemic barriers to obtaining healthcare

Equitable access to reproductive healthcare is limited by systemic barriers found in the United States healthcare landscape, which emphasizes a broader pattern of discrimination towards oppressed groups seeking healthcare.[2,5] In order for there to be equitable and equal access of high-quality reproductive health resources, individuals must actually be able to access services. Numerous barriers exist that disconnect the individual from the provider, and delaying or completely limiting access to healthcare can result in adverse health outcomes and even death. In order to address the disparities in overall health, especially in relation to reproductive health, we must critically analyze the systemic barriers at play. These specific systemic barriers include but are not limited to sexism, racism, homophobia, transphobia, classism, ableism, xenophobia and religiously centered medical values. These prejudices influence the individual's ability to obtain the resources needed to access. This study aims to analyze manifestations of these prejudices (low income, lack of insurance, and geographic locations) and situate these findings in the broader context of healthcare disparities.

Certain groups of people experience oppression and subsequent lower social and economic status from discrimination.[6] This lowered social and economic status greatly influences the overall health and well-being of individuals, especially because of the financial framework of American healthcare.[6] Today, the wealthiest Americans have life

expectancies 20.1 years longer than the poorest Americans.[7] The healthcare structure in the United States (US) privileges privatized healthcare, with individuals obtaining insurance coverage through their employers.[8]

Medicaid and Medicare aim to provide federal health insurance to those who are experiencing poverty, or are considered elderly. Though there is a significant portion of the US population which is considered the "working poor", who generate enough income to disqualify them from free government-funded health insurance though do not make enough money to afford healthcare services without insurance coverage.[9] Insurance coverage greatly influences whether an individual can access certain forms of care (routine examinations, prescriptions, therapy, procedures, preventative screenings, etc.) and also greatly impacts the health of an individual.[10]

Poorer individuals spend a higher percentage of their income on healthcare than wealthy individuals do.[11] Due to exponential rises in wealth inequality as well as rising insurance premiums, co-pays and deductibles, more and more individuals are considered "underinsured."[12] The percent of individuals aged 18-64 in the United States who are considered underinsured roughly tripled from 9% in 2003 to 26% in 2018.[13] Underinsurance complicates the idea that simply having health insurance improves access and quality of healthcare, as some insurance plans do not provide the patient with the coverage required for their specific healthcare needs. Since oppressed groups are more likely to experience poverty[14], access to insurance can be extremely limited in these groups, with the working poor experiencing a complicated situation in which the individual may have health insurance, but that insurance may not cover the service they are attempting to access.[9] Underinsurance may force individuals to

sometimes forgo medical attention or delay preventative screening procedures, which can cause worsening of pre-existing conditions, and can ultimately lead to poorer health outcomes.

Research has found that the best way to extend insurance coverage to all Americans is the creation of a "non-market financing scheme that treats health care as a human right"[8]. Re-imagining healthcare as a human right, one that the government would have the responsibility to uphold and protect, means that individuals who are currently excluded from accessing healthcare or who would experience severe financial distress in times of poor health would be included[2].

Annual women's health visits are essential for an individual's reproductive and sexual health, though there are many barriers to accessing such care. Reproductive justice initiatives serve to center women's health and wellness by ensuring "the right to maintain personal bodily autonomy, have children, not have children, and parent the children we have in safe and sustainable communities."[15] Reproductive justice aims to further the narrative around reproductive and sexual health- pushing for access to other essential resources such as safe and adequate housing, food security, and more. Pointedly, reproductive justice purposely prioritizes and places emphasis on those who are most oppressed, lifting up all individuals starting from the bottom. Obtaining women's care is essential to fulfilling reproductive justice initiatives.

Methods:

Survey Design, Implementation and Collection

The Ohio Survey of Women was created via collaboration between The Ohio State University, The University of Cincinnati, Case Western Reserve University and NORC, an independent and non-partisan research institution. The survey was created to capture extensive information on the reproductive health of an individual including the types of reproductive healthcare services that an individual is utilizing (such as contraception use and previous childbirth) as well as a measure of the accessibility of these services (e.g., whether the individual is using their preferred form of birth control, the source of their most recent pregnancy test, and the reasons for not being able to obtain healthcare when it was needed).[16] The survey also captures demographic information including age, race, residence (rural Appalachian vs. other geographic areas of the state), socioeconomic status (personal income, education), number of dependents and insurance status (including differentiation between private and government supported insurance programs).

Adult women of reproductive age (18-44 years old) living in Ohio were the population of interest for this survey. NORC developed and disseminated the survey. The survey was approved by NORC's Institutional Review Board (IRB) and exempt from further review by The Ohio State University IRB and the University of Cincinnati IRB.

Households were selected randomly using address-based sampling (ABS) methods and anyone aged 18-44 living in the sampled household who self-identified as a woman was eligible to participate. Once an individual completed the survey, they were asked if anyone else in the household would also qualify to take the survey. Households

in rural Appalachia were over-sampled to ensure that these experiences would be robustly represented.

To ensure sampling of women aged 18-44, NORC used the computerized delivery sequence provided by the United States Postal Service with an enhanced age-targeted list. This information was then geocoded. The geocoded data was then appended with demographic information from the American Community Survey. The resulting address frame was then matched to addresses likely to contain women aged 18-44, as identified by Marketing Systems Group. To oversample women living in rural, Appalachian Ohio, 31 counties with such a description were targeted.

Responses to the survey were collected either through a digital survey on the Internet or a hardcopy self-administered questionnaire (SAQ). A stepwise process was used to contact and provide materials (Figure 1).[16] NORC conducted these steps to reduce biased sampling or answers. The survey was released in two batches so that information gained from the first batch response rate and demographic information could be used to influence the selected participants to be surveyed in the second batch. First, identified participants were mailed an invitation to complete the online survey and a follow up reminder post card was mailed if they did not respond to the initial request. If they still did not complete the online survey, another letter was sent to the household. If that also proved unsuccessful, they were mailed a hardcopy questionnaire with a cover letter and postage-paid business reply envelope. If this hardcopy questionnaire was not completed a final reminder postcard was mailed as well.

Web-Survey Mailings

- **Web invitation letter.**

The initial invitation for households to complete the web-based survey was mailed via the U.S. Postal Service. Along with this invitation, this mailing included instructions on how to access this survey online as well as a $5 pre-paid cash incentive. Furthermore, the mailing included the purpose of the study as well as a Personal Identification Number (PIN) to be used in the web survey. Participants were also informed that upon completion of the web-based survey they would receive a $10 Amazon gift-card. A project email and toll-free phone number were included if recipients had and questions of concerns.

- **Web reminder postcard.**

One week after the initial invitation was mailed, a reminder postcard was mailed. This postcard again informed recipients that they were invited to complete the web-based survey and contact information was again provided for any issues that arose.

- **Web reminder letter.**

Two weeks after the reminder postcard was mailed, a follow-up reminder letter was sent to households who had not responded to the web-based survey. This letter encouraged the household to complete the mailing and reminded them that they will be compensated via a $10 Amazon gift card for their participation. Instructions on how to access the online survey were again supplied as well as project contact information for any questions.

● **Final web letter.**

For individuals who had started the online survey, but had not completed the process, NORC mailed a final reminder letter to urge participants to complete of the survey before the data collection deadline had passed. Again, participants were informed of the $10 Amazon gift card for those who had successfully completed the online survey.

SAQ Mailings

● **SAQ Packet 1.**

NORC sent packets containing a paper copy SAQ, cover letter asking them to complete this hardcopy survey, the $5 cash incentive and an envelope with a pre-paid stamp to mail back the completed survey to households that did not successfully complete the web survey. This mailing also detailed the purpose of the study, an estimate of the approximate length of time required to complete the survey (10-15 minutes), project contact information and information on the $10 Amazon gift card that participants would receive upon completion of the survey.

● **SAQ reminder postcard.**

One week after the SAQ Packet 1 was mailed, a reminder postcard was mailed that thanked respondents who had completed the survey as well as promote the completion of the survey for those who had yet to do so. Project contact information was supplied in case participants had questions or if they wished to complete the web survey instead.

● **SAQ Packet 2.**

About five weeks after the reminder postcard was sent, all non-respondents were sent a second SAQ packet containing a letter, copy of the questionnaire and a stamped

envelope to mail back the completed survey. Once again participants were reminded that they could earn a $10 Amazon gift card upon completion of the survey- either web based or paper copy.

Prior to all follow-up mailings, households that were marked as undeliverable and households that had already completed the survey were excised from the mailing list. The online survey could be completed in either English or Spanish (Figure 2).

Data were collected from both the online survey and the hardcopy survey and tabulated. NORC calculated the overall response rate and time it took individuals to complete the online version of the survey. Throughout data collection, NORC programmers continually assessed submitted data using SAS to identify any errors that occurred in the web system. Data entry staff entered exactly what was written on the self-administered paper questionnaire. The final dataset produced by NORC included 2,613 complete responses. Cleaned and weighed data were considered properly tabulated and prepared for data analysis.[16]

Data analysis

I used Stata (Version 14) for all analyses. The variables of interest included demographic information such as age, race, sexual minority (someone who self-identified with a sexuality other than heterosexual) status, rural Appalachian residency and current pregnancy status, as well as socioeconomic status (a combination of both income and highest level of education completed), health insurance status over the past year and employment status. Socioeconomic status was determined by combining household income as well as the highest level of education the individual has obtained. Each

variable of interest was selected as they represent certain situations that may or may not make obtaining healthcare more difficult.

I examined each demographic and socioeconomic characteristic to determine the odds of a person with a particular characteristic not obtaining a women's health visit in the last year. Each categorical response level (such as race, highest level of education completed, etc.) was coded numerically.

A weighting scale was developed by NORC so that the data would be representative of all adult women of reproductive age in Ohio; weights were applied before analysis so that we could make more generalizable conclusions. A frequency distribution table (Table 1) was created for each characteristic and whether or not the individual obtained a women's health visit in the last year. Missing responses were also tabulated for each characteristic. Next, we specified unadjusted logistic regression models (Table 2, Figure 3) to determine the odds ratio (OR) as well as 95% confidence interval (CI) that an individual with a particular characteristic did not obtain an annual women's health visit in the last year. Particular characteristics within each category that are associated with privilege or historically have had greater access to healthcare (e.g., being white, having high SES) were designated as the reference category. All other characteristics within each category were then compared to the reference group, and significant results were determined if the 95% confidence interval excluded the null value of one. An odds ratio greater than one indicates increased odds of not having obtained an annual women's health visit in the last year; an odds ratio less than one indicates decreased odds of not having obtained a women's health visit in the last year.

Results:

A total of 2,613 participants completed the survey. After removing respondents who were missing data on the primary variables of interest, 2,465 (94%) records were included in the analytic sample. The respondents of this survey came from a wide variety of backgrounds and experiences but certain demographic and socioeconomic patterns became apparent The most common age of respondents was between 18-24 years old (24.2%), most identified as heterosexual (85.8%) and were not currently pregnant (96.5%). The majority of respondents were white (75.6%) and did not live in a rural Appalachia county (85.2%). The most common socioeconomic bracket was the highest (income of more than $75,000 a year and had a bachelor's degree or higher, 45.0%) Most had health insurance for the entirety the past year (87.1%) and were employed (75.0%). The data were weighted to ensure the findings accurately represented adult Ohio women.

Of the full sample, 747 individuals had not obtained a women's health visit in the last year (30.3%) while 1,718 (69.7%) had obtained a women's health visit (Table 1).

Unadjusted logistic regression provided insights as to which Ohio women did not obtain a women's health visit in the last year (Table 2). Multiple demographic characteristics were associated with not obtaining a women's health visit in the past year. Women aged 18-24 had the highest odds of not obtaining care (OR=2.35, 95% CI= 1.86, 3.27), while each successive older age group had lower odds of not receiving a women's health visit. Women aged 40-44 (the reference group) had the lowest odds that they did not obtain a women's health visit in the past year. People who identified as a sexual minority (a sexual orientation other than heterosexual) were more likely (OR=1.52, CI= 1.11, 2.08) to have not obtained a women's health visit in the past year as compared to

heterosexual individuals. Other demographic characteristics including rural Appalachia residency (OR=1.05, CI= 0.82, 1.32), race (Black OR= 1.18, CI= 0.75, 1.86; Hispanic OR= 0.91, CI= 0.49, 1,66; Multiracial/other OR=1.44, CI= 0.95, 2.16), and pregnancy status (not pregnant OR= 1.52, CI= 0.77, 3.03) were not significantly associated with obtaining a women's health visit in the past year.

Several socioeconomic indicators were also associated with higher odds of failing to obtain a women's health visit in the last year. Compared to the highest socioeconomic bracket (household income more than $75,000, bachelor's degree or higher), those in the lower three brackets (income less than $75,000 a year, some college or less OR=2.26, CI=1.72, 2.99; income more than $75,000, some college or less OR=1.86, CI= 1.28, 2.70; income less than $75,000, bachelor's degree or higher OR=1.43, CI=1.03, 1.99) had higher odds of not receiving a women's health visit in the past year. Individuals who lacked health insurance at some point over the year had significantly higher odds of not obtaining a women's health visit (OR= 4.51, CI= 3.10, 6.56) as compared to those who did have health insurance the entire year. Individuals who were unemployed or out of the workforce (disabled, homemaker, etc.) had significantly higher odds to have not obtained a women's health visit (OR=1.50, CI= 1.16, 1.94) than those who were employed. All of the socioeconomic indicators we tested were significantly associated with whether an individual obtained a women's health visit in the past year.

Discussion:

Overall, 30.3% of the survey respondents did not receive a women's health visit in the last year. Multiple demographic characteristics including being younger and identifying as a sexual minority corresponded with increased likelihood of not obtaining a women's health visit. Several socioeconomic indicators including low socioeconomic status, not having health insurance the entire year, and being unemployed or out of the workforce, resulted in an increased likelihood that an individual failed to obtain a women's health visit in the past year.

Other research has also found that young people and teenagers face significant barriers to accessing reproductive and sexual health care. Barriers such as inconvenient hours (open only during school and traditional work hours), legal and policy hurdles, confidentiality concerns, fear of discrimination, disrespect, and high costs all contribute to youth not accessing appropriate care.[17] Lack of confidentiality is especially challenging for youth accessing HIV/STI testing, pregnancy testing, contraception services and abortion-related care as they may have their health insurance through their parents, and any services the dependent received would be reported to their parents on insurance billing.[18] Additionally, Pap smear testing guidelines now say that an individual with female reproductive anatomy receive their first Pap smear at age 21[1], and this may be the first time the individual has obtained reproductive/ sexual healthcare. This could explain why women aged 18-24 had the highest odds of not receiving an annual women's health visit, as this may be the first instance they are required to see a healthcare professional about their reproductive health.

Women who identify as a sexual minority are less likely to use sexual and reproductive health care services and receive contraceptive counseling as compared to their self-identifying heterosexual peers.[19] This has serious consequences to reproductive and sexual health as these women may have increased risk of STIs and unintended pregnancy.[19] Risks of STIs and unintended pregnancies may be increased both by the lack of access to reproductive and sexual health services and the lack of education on these topics which is sometimes not communicated in clinical settings to sexual minority women.[19]

Our findings about lower socioeconomic status and a failure to obtain a women's health visit are consistent with previous literature surrounding poverty, insurance status, income and level of education. Socioeconomic status is a complex measure that takes into account a multitude of economic and educational factors that both influence one another and an individual's ability to obtain healthcare of any type.[2,5,8,20,21,22] Income, employment status and insurance status are intrinsically linked to one another in the US as there are "high rates of uninsurance or inadequate health insurance (underinsurance) among low-income Americans."[8] Whether one is employed affects income and therefore insurance type and status, which affect the not only the locations one can obtain services, but also what kind of services the individual can obtain. This lack of access to all available sources of health care create real health care outcome disparities: "Unequal access to medical services is likely to contribute to disparities in health status, while rising costs (for both the insured and the uninsured) reduce disposable incomes, particularly burdening low-income households" because "poor and middle-class individuals [are] paying a larger share of their incomes for care than the affluent."[8,10] This

further contributes to wealth disparities by deepening inequalities in disposable income.[8] In the present study, lack of health insurance during the year greatly increased an individual's odds of not obtaining a women's health visit in the last year. This is consistent with other research that shows that individuals who are uninsured are more likely to not obtain needed medical visits, tests, treatments and medications because of cost as compared to their insured peers.[8] Encouragingly, obtaining health insurance increases access to healthcare.[8] Medicaid, government-based health insurance for those who are low income, pregnant or have certain disabilities, improves access to healthcare services and subsequently creates better health outcomes.[8]

As the gap between the poor and the rich in the US becomes ever larger[8], health outcome disparities may worsen as well. This research supports previous analyses that conclude that individuals with lower educational attainment (less than a bachelor's degree) are less likely to obtain reproductive and sexual health care in the last year.[21] This may lead to an increased risk of unintended pregnancies.[23]

Interestingly, in contrast to prior studies, race, rural Appalachian residency, and pregnancy status did not significantly correlate with a failure to obtain a women's health visit in the last year.

Race:

Previous research has shown that people of color (most research focusing on Black individuals) experience more barriers to accessing reproductive and sexual health care, as well as poorer health outcomes when they do connect with care. Racism, both systemic and interpersonal, historic and contemporary, greatly affects how people of color navigate the US healthcare system. Discrimination is a major barrier that women of

color face when attempting to access reproductive healthcare, especially prenatal care. Black women experience complex violence against them in medical settings; "African American women are more likely than white women to experience discrimination, receive sub-standard medical care, and undergo unnecessary surgeries such as hysterectomies."[24] There is a long and traumatic history of forced/-coerced sterilization procedures against people of color, those who are disabled, or those who are a sexual minority in the US[6]. Colorism also has played a role into both microaggressions in reproductive care specifically as well as inappropriately delayed care as both light-skinned and dark-skinned (according to self-reported skin tone) pregnant women had delayed prenatal care (compared self-reported medium-skinned women) and had a higher DLE-B (Daily Life Experiences of Racism and Bother) score[25] (Slaughter-Acey). Additionally, "Black women and Native American women were more likely to have received late (starting in the third trimester) or no prenatal care compared [to] white women."[26] Black women are at highest risk for maternal mortality and morbidity and Black children are more than twice as likely to die during infancy than white children, despite protective factors such as higher maternal education.[24] It is important to note that these observed differences between different races and ethnicities are not due to individual's biologic disposition or behaviors, but instead reflect historic and contemporary disparities that negatively impact health outcomes.[26]

Race is a socially constructed idea, meaning that the categorizing of people into different races is not rooted in science or biology, and instead on arbitrary indicators of difference that do not exist between all cultures. Though the present study did not find a significant association between race and receipt of a women's health visit in the last year

in Ohio, several other studies highlight that people of color experience barriers to accessing healthcare, have lower quality of healthcare and have poorer healthcare outcomes. This could be due to the relatively low number of Black respondents (n= 134, 5.4% of total respondents, which is less than the proportion of Black Ohio women). Having a small number of Black women represent a much larger group can lead to nuance being lost. Perhaps the Black women who answered this survey are of higher socioeconomic status and have more time to participate in a lengthy survey. Further adjusted logistic regression analyses can help determine if this hypothesis holds true. Alternatively, perhaps the Black women who responded to this survey are passionate about reproductive and sexual healthcare and are more excited to participate in the survey. It is possible that by stratifying our analyses by race, or applying more sophisticated analytic techniques, might reveal meaningful differences in access to care by race. Further research is critical to re-assess the accessibility of reproductive and sexual healthcare care as well as health care outcomes for Ohio women of color.

Rural/ Appalachia Residency:

Previous research indicates individuals living in rural or Appalachia areas of the United States experience significant barriers to obtaining health care services, including transportation issues (hard distance from home to health care setting), cost, and a lower concentration of physicians.[27] As in the situation with Black women, perhaps the rural Appalachia women answering this survey have another underlying characteristic (perhaps socioeconomic status or insurance status) that is more of a driving factor of reproductive and sexual healthcare access. Further adjusted logistic regressions are required to determine this proposed situation. Though the present study did not find a relationship

between rural Appalachia residency and a failure to access a women's health visit in the last year, Appalachia communities continue to struggle with accessing primary care services and experience significant health disparities including high prevalence obesity, opioid misuse and tobacco consumption).[27]

Pregnancy status:

Current pregnancy status was not linked to an inability to obtain a women's health visit in the last year. Pregnant individuals are strongly encouraged to obtain care with an OBGYN, so we expected pregnant respondents to be obtaining reproductive and sexual healthcare more than non-pregnant respondents. Our study had a low number of pregnant people (n= 69, 2.8% of total survey respondents) and the pregnant people who responded to the survey may not represent the experiences of all pregnant people in Ohio. Perhaps the currently pregnant women are of higher socioeconomic class and have time to manage attending prenatal visits and completing a research survey. Again, further analysis is needed to confirm this hypothesis. Though this is not what our survey found, there are significant disparities in terms of maternal and infant health.[6] One national initiative, CenteringPregnancy, focuses on developing a community of support around pregnant individuals and their family to close the gap of prenatal care disparities experienced by certain communities.[26]

Limitations

There are a few limitations of the Ohio Survey of Women, including the population that responded to the survey. The majority of individuals who completed this survey had identities that are most privileged in our society (white, heterosexual, employed, high income, etc.) which can be expected as they may have more leisure time

to fill out extensive surveys. While each response was weighed to represent Ohio as a whole, there is a chance that nuances can be lost to non-response bias, with those with lower engagement with reproductive and sexual health not responding to the survey. Additionally, this survey was not accessible to people experiencing homelessness, those that do not read English or Spanish and those that are visually impaired. Future iterations of this survey could include engagement with women experiencing homelessness, providing the survey in different languages and providing audio transcriptions of the survey to better include those who could not access this version of the survey- but whose experiences are currently missing from this otherwise representative study.

Measuring reproductive and sexual healthcare obtainment is also quite difficult- the survey question asked respondents if they had an "annual women's visit in the past year", which may have different meanings to different individuals. Primary care providers are often well equipped to support both reproductive and sexual health needs, and individuals may be obtaining this care at a different point than the annual women's health visit. Additionally the wording of a "women's visit" is unnecessarily gendered. While this study aimed to gain insight into women's reproductive and sexual health, using outdated phrases can lead to disengagement from transgender and gender non-conforming individuals (particularly transgender women).

Finally, there is no measure of "accessibility" of the annual women's health visit- only if the patient received care or not. Accessibility is more complicated than a simple yes-no binary, and the current measures do not fully define the struggles an individual had to go through in order to obtain reproductive and sexual healthcare, or if the care was high quality and appropriate.

Conclusion:

Nearly a third of Ohio women did not obtain an annual women's health visit in the last year. Being younger and identifying as a sexual minority were each associated with lower odds of attending an annual women's visit in the last year. Similarly, other socioeconomic indicators such as lower socioeconomic status, being unemployed or out of the workforce, and lack of health insurance were linked to lower odds of obtaining annual women's healthcare in the last year. Reproductive and sexual healthcare is critical to the overall health of women, and access to good quality healthcare is an essential and basic human right. We must create interventions within the current healthcare system to ensure that reproductive and sexual healthcare is more accessible to all. Reproductive justice can provide a framework for how to best initiate and implement these interventions.

Tables and Figures

Table 1. Demographic and socioeconomic characteristics of study respondents of Ohio Survey of Women, N= 2,465

	Total (N=2,465)		**Did not attend annual women's visit in the last year(N=747)**		**Attended annual women's visit in the last year (N=1,718)**	
	N	**Weighted %**	**N**	**Weighted %**	**N**	**Weighted %**
Received annual women's health visit						
Yes	1,718	69.7				
No	747	30.3				
Age (years)						
18-24	376	24.2	163	31.7	213	20.6
25-29	407	20.4	120	21.1	287	20.1
30-34	477	22.9	134	20.5	343	24.1
35-39	598	14.9	177	13.8	421	15.4
40-44	607	17.6	153	12.9	454	19.8
Missing	0		0		0	
Education and Household Income (SES)						
Highest: Bachelor's degree+, $75k+	914	45.0	348	53.9	566	40.7
Medium-high: Bachelor's degree+, <$75k	317	10.6	97	11.2	220	10.3
Medium-low: Some college or less, $75k+	530	25.2	139	21.1	391	25.2
Lowest: some college or less, <$75k	704	23.7	163	13.9	541	23.7
Missing	0		0		0	
Race/Ethnicity						
White	2,077	75.6	618	73.0	1,459	76.9
Black	134	13.3	41	14.9	93	13.3
Hispanic	80	2.4	25	2.1	55	2.4
Multi/Other	174	7.4	63	10.1	111	7.4
Missing	0		0		0	

	Total (N=2,465)		Did not attend annual women's visit in the last year(N=747)		Attended annual women's visit in the last year (N=1,718)	
	N	Weighted %	N	Weighted %	N	Weighted %
Sexual Minority* Status						
No	2,147	85.8	625	82.2	1,522	87.5
Yes	287	12.5	109	17.8	178	12.5
Missing	31		13		18	
Resides in Rural Appalachia						
No	1,924	85.2	581	85.6	1,343	85.0
Yes	541	14.8	166	14.4	375	15.1
Missing	0		0		0	
Had Health Insurance for All of the Past Year						
No	236	12.9	148	25.3	88	7.0
Yes	2,210	87.1	588	74.7	1,622	93.0
Missing	19		11		8	
Employment Status						
Employed	1,878	75.0	534	69.7	1,344	77.5
Out of Work Force/ Unemployed	587	25.0	213	30.4	374	22.5
Pregnancy Status						
Not pregnant	2,087	96.5	631	97.4	1,456	96.1
Pregnant	69	3.5	16	2.6	53	3.5
Missing	309		100		209	

*Sexual minority refers to an individual who selected a sexual orientation other than heterosexual

Table 2. Unadjusted logistic associations between select demographic and socioeconomic factors and not attending an annual women's visit in the last year, Ohio Survey of Women, N=2,456

Characteristic	OR	95% CI
Age (years)		
18-24	**2.35**	**(1.68, 3.27)**
25-29	**1.60**	**(1.13, 2.27)**
30-34	1.30	(0.92, 1.82)
35-39	**1.36**	**(1.00, 1.87)**
40-44	1	Ref
Education and Household Income (SES)		
Some college or less, <$75k	**2.26**	**(1.72, 2.99)**
Some college or less, $75k+	**1.86**	**(1.28, 2.70)**
Bachelor's Degree +, <$75k	**1.43**	**(1.03, 1.99)**
Bachelor's Degree +, $75k+	1	Ref
Race/Ethnicity		
Black	1.18	(0.75, 1.86)
Hispanic	0.91	(0.49, 1.66)
Multi/other	1.44	(0.95, 2.16)
White	1	Ref
Sexual minority* status		
Sexual Minority	**1.52**	**(1.11, 2.08)**
Heterosexual	1	Ref
Resides in Rural Appalachia		
Rural Appalachia Resident	1.05	(0.82, 1.36)
Non- Rural Appalachia Resident	1	Ref
Had Health Insurance for All of the Past Year		
No	**4.51**	**(3.10, 6.56)**
Yes	1	Ref
Employment Status		
Unemployed/ Out of Work Force	**1.50**	**(1.16, 1.94)**
Employed	1	Ref
Pregnancy status		
Not pregnant	1.52	(0.77, 3.03)
Pregnant	1	Ref

*Sexual minority refers to an individual who selected a sexual orientation other than heterosexual
OR = Odds Ratio, CI = confidence interval
Note: Bold font indicates confidence intervals that do not contain the null value of 1

Figure 1:

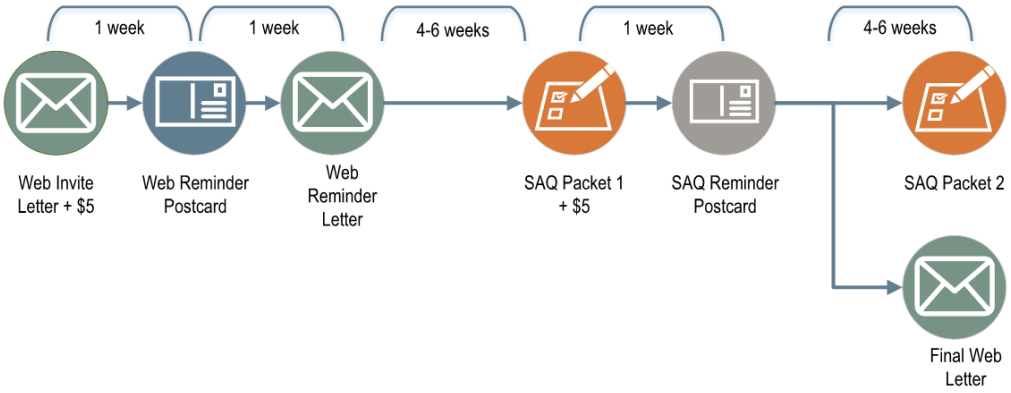

Figure 1: Schematic of multimode approach NORC took in contacting and following up with individuals to reduce non-response bias.

Figure 2:

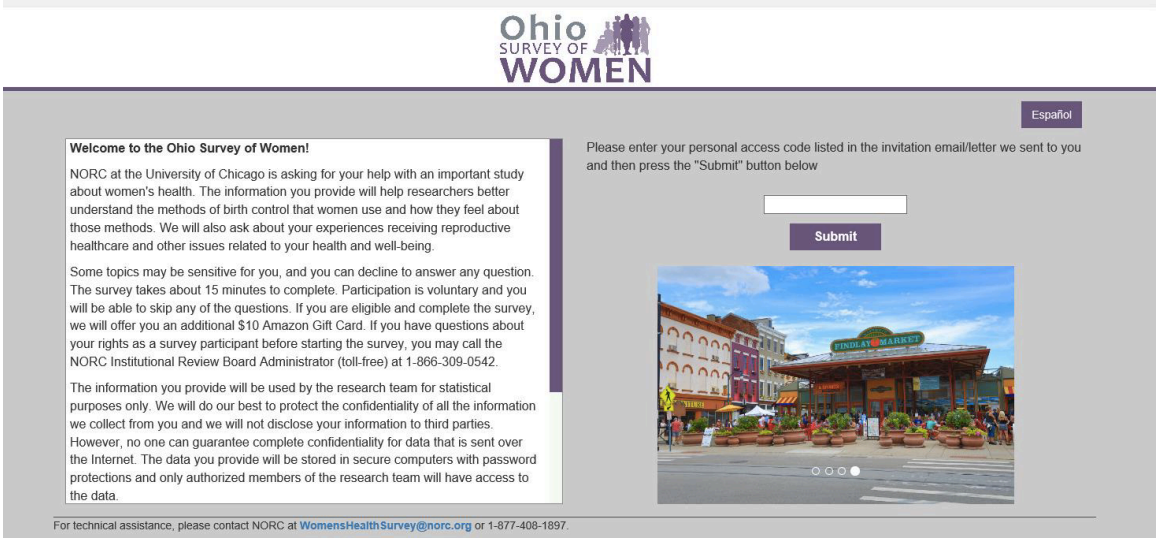

Figure 2. Homepage of the online version of the Ohio Survey of Women.

Figure 3:

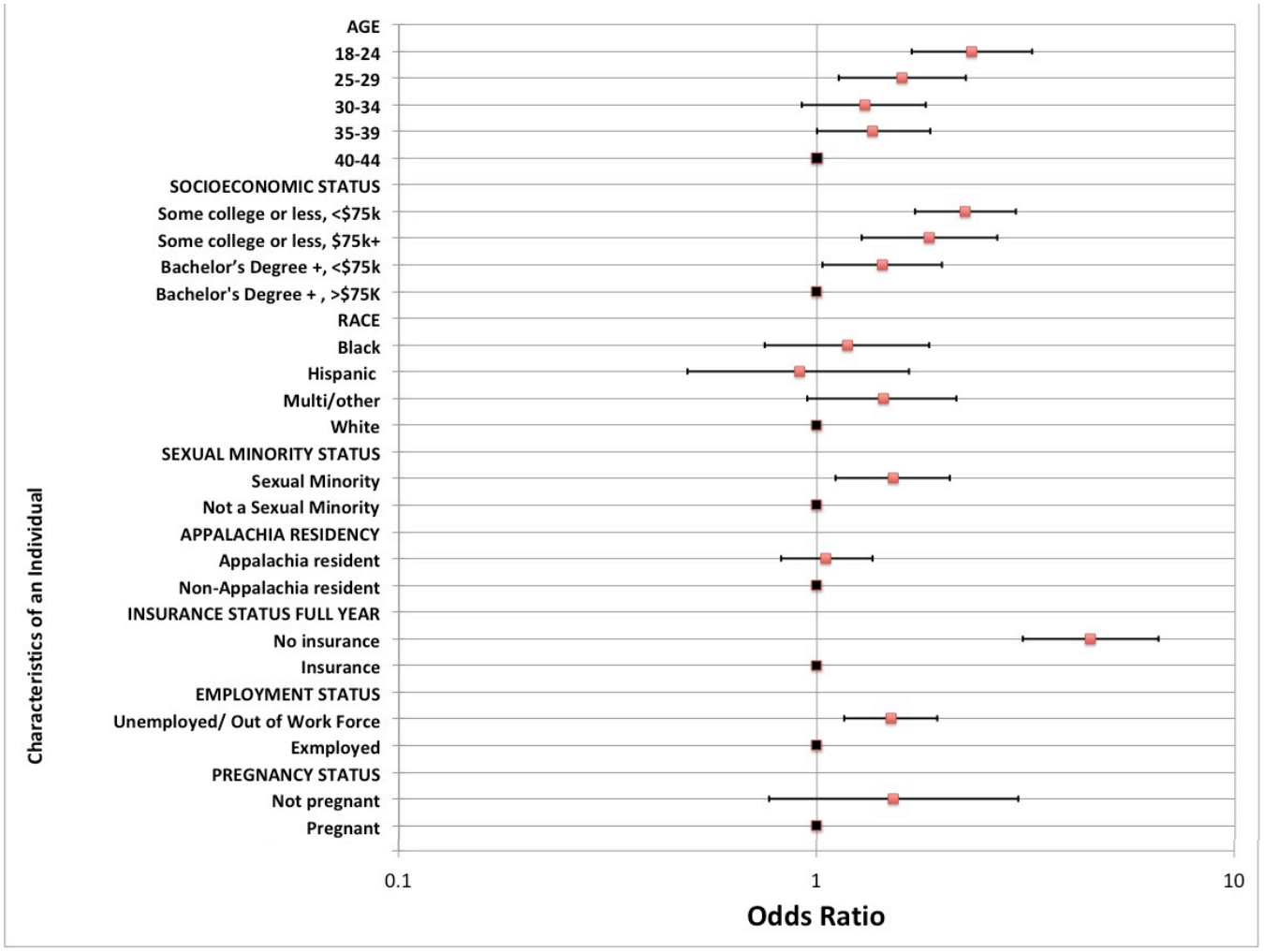

Figure 3. Forest plot depicting the Odds Ratios and 95% Confidence Intervals for association between selected participant characteristics and not attending an annual women's visit in the past year.

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